

Radio Frequency Identification (RFID) in Tracking Hazardous Waste Across Domestic and International Borders

Supporting GPRA Goal #5: Better Waste Management

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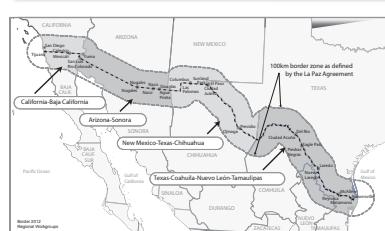
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Problem

- Resource Conservation and Recovery Act requires cradle-to-grave tracking of all hazardous waste.
- This is difficult when the cradle (generator) is in one country and the grave (receiving facility) is in another.
- Mexican law requires that waste from the maquiladoras (foreign-owned manufacturing facilities) be returned to the country of origin.
- Current paper-based system does not allow for timely confirmation of disposition.
- There is a need to provide more effective compliance monitoring.

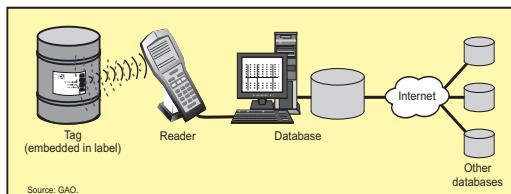
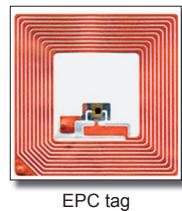
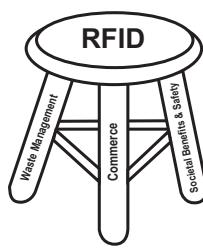


This project supports Goal 3 of Border 2012: Reduce Land Contamination.

Solution

- RFID is a commercially ready tracking technology.
- Using RFID to physically track shipments of hazardous waste across the U.S.-Mexican border strengthens environmental compliance.
- Increase coordination between U.S. and Mexican environmental authorities will facilitate increased security of these shipments.
- Drums can be effectively tracked from the Mexican generator to the U.S. receiving facility.
- Accurate, timely notification can be sent to EPA when waste enters the U.S. and when it reaches the designated treatment storage or disposal (TSD) facility.

RFID is the solution! Improving how hazardous materials are shipped, tracked, and monitored and supports EPA's goal of risk reduction, waste recycling, and regulation enforcement. Providing sustainable control of these materials while in transport.



Components of an RFID System

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Contributors

U.S. EPA
National Aeronautics and Space Administration (NASA)

Potential Vendors:
AVANTE International Technology, Inc.; Omnicron Technologies, Inc.; Sav Technology, Inc.; SeekerNet, Inc.; Williams-Russell and Johnson, Inc.

Foreign Border Coordination

Mexican Officials:
Aduana Mexico (Customs); PROFEPA (Federal Ministry for Environmental Protection); SEMARNAT (Secretary of the Environment and Natural Resources); Director General, Secretaría de Economía (Secretary of the Economy); Border 2012 Waste Policy Forum, Staff del Foro de Políticas de Residuos Sólidos y Peligrosos (Staff to the Hazardous and Solid Waste Policy Forum); Maquiladora Association (Generators of hazardous waste)

Foreign Border Coordination (continued)

Canadian Officials:
Environment Canada; Enforcement Program; Canadian Customs

U.S. Border Coordination

EPA: Office of Solid Waste; Region VI, Regional Compliance Assistance Center; Region IX

Federal Agencies:

U.S. Customs and Border Protection; U.S. Department of Homeland Security; U.S. Department of Transportation

States:

Texas Commission on Environmental Quality

California Department of Environmental Protection

Interstate Truck Stops:

Pilot Travel Centers



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